

THE UNIVERSITY OF IOWA COLLEGE OF ENGINEERING

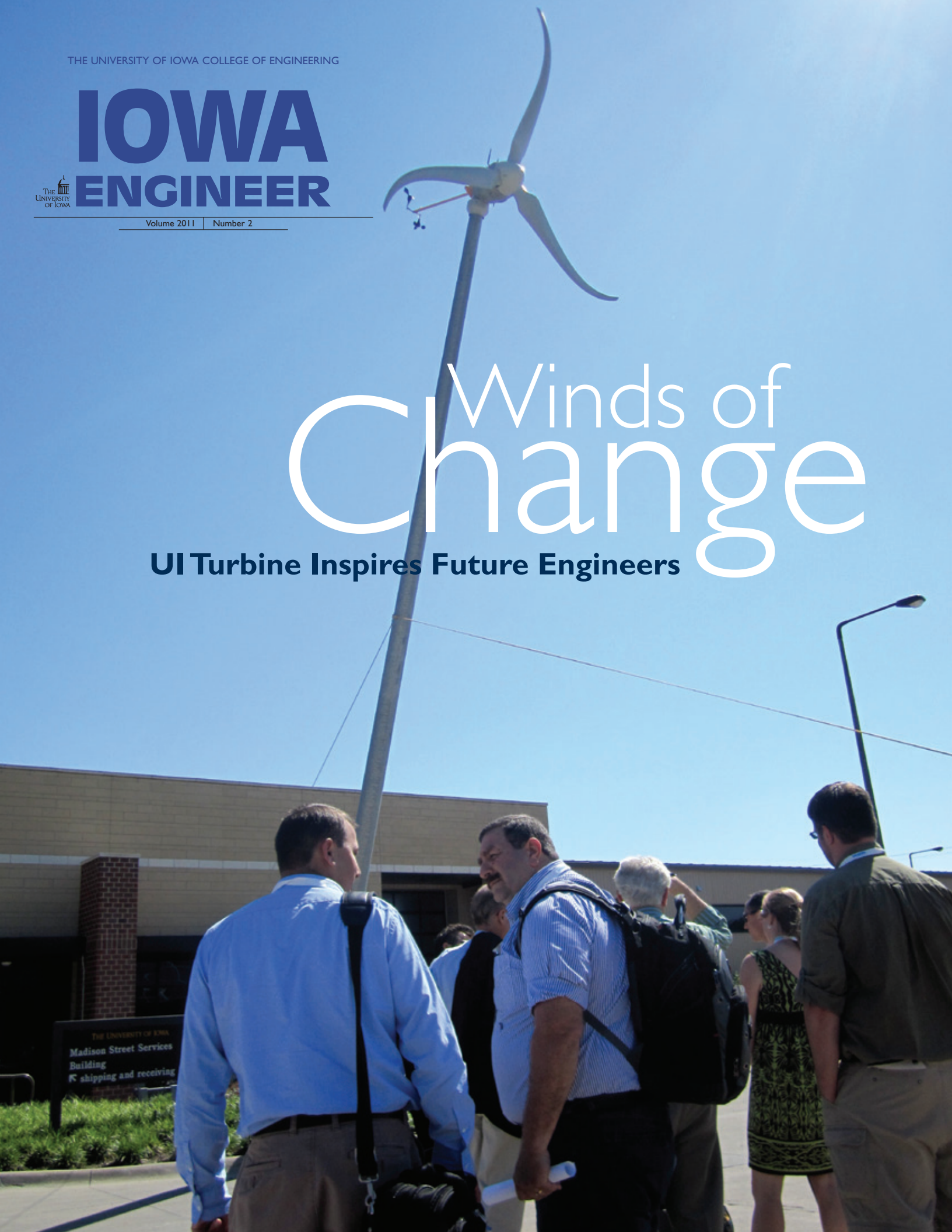


# IOWA ENGINEER

Volume 2011 | Number 2

# Winds of Change

**UI Turbine Inspires Future Engineers**



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# CAMPUS WIND TURBINE A POWERFUL TEACHING OPPORTUNITY



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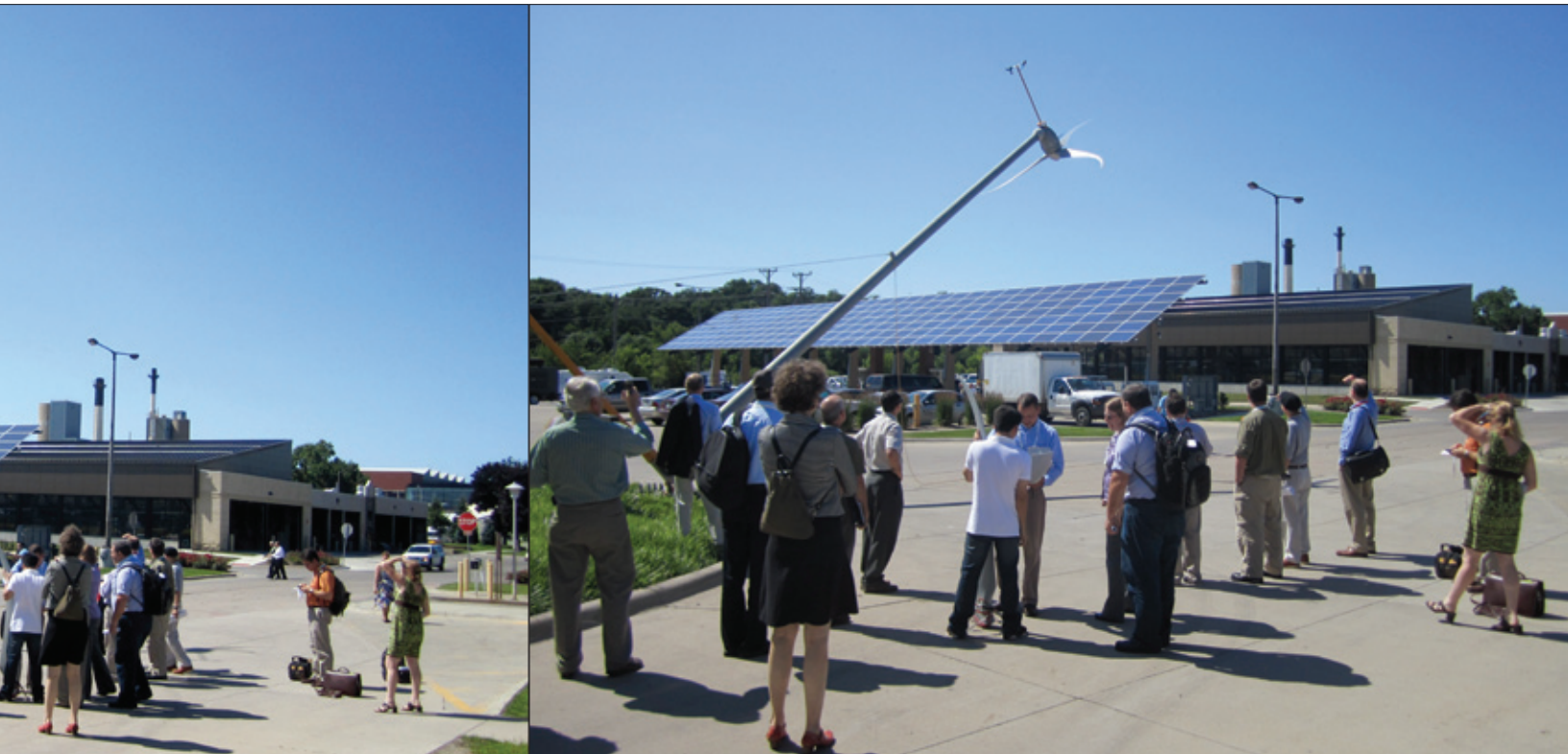
*Above: The new instructional wind turbine on the UI campus is designed to be raised and lowered quickly so students can examine its components up close. In the photo sequence above, Professor Pablo Carrica and students demonstrate the turbine to guests attending a June university summit in Iowa City, sponsored by the American Wind Energy Association.*

*Cover photo: The College of Engineering's new 2.4 kW wind turbine provides a unique learning experience for students and adds precious renewable energy to the university's power grid.*

TEXT BY JEAN FLORMAN



When Pablo Carrica feels the wind sail across the Iowa prairie and tumble through the streets and buildings of Iowa City, he thinks of opportunity—for the country, the state, and especially for his students. As the United States continues to grapple with its energy needs, Iowa has moved into a position of leadership in the development and production of wind energy, and Carrica wants University of Iowa engineering students to seize this opportunity to help enhance this important renewable energy resource.



In 2009, the associate professor of mechanical and industrial engineering and research engineer at IIHR-Hydrosience & Engineering helped the University of Iowa acquire and set up a small wind turbine that he now uses to teach experimental methods and procedures to UI engineering students. Purchased with a \$20,000 collegiate teaching grant and located on campus a few blocks from the college, the three-blade Skystream 3.7 turbine can generate 2.4 kW of power—the ideal size for teaching purposes. To provide instrumentation for the device, Carrica secured almost \$40,000 in grant funds from the Iowa Alliance for Wind Innovation and Novel Development (IAWIND). Carrica's students have conducted a variety of experiments that measure wind speed, power, and rotation of the turbine blades in an effort to calculate mechanical and electrical efficiency of the device.

"I want my students to get hands-on engineering experience," Carrica says. "The turbine allows them not only to learn about the mechanics of energy production but also to appreciate the importance of wind power for our future."

Iowans also are beginning to appreciate that resource, and Iowa companies are tapping into the growing wind energy market. The state ranks first in the generation of wind power per individual as well as first in overall wind-generated electricity, with 17% of our electricity produced by wind. Several significant wind energy companies call Iowa home, including blade factories in Newton and Fort Madison, turbine manufacturing plants in Cedar Rapids and West Branch, and tower production facilities in Newton and Sioux City.

"Wind energy is relatively low-tech, but the industry is ripe for innovation and growth," says Carrica, who hopes to erect his own turbine for home use some day.

Students in Carrica's senior-level Experimental Engineering course who choose to experiment on the turbine work in three-person teams explore a range of questions, including how transient forces on the six-foot-long fiberglass blades affect the gearbox, the relationship between the speed of rotation and the generation of electricity, and the degree to which the blades'





“I want my students to get hands-on engineering experience,” Carrica (left) says. “The turbine allows them not only to learn about the mechanics of energy production but also to appreciate the importance of wind power for our future.”

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movement impacts the shaft. As the students measure a range of variables over time, the data is fed into a computer for future analysis. The 37-foot-tall turbine tower is hinged so students and researchers can periodically change the instrumentation located in the nose or in the nacelle, the lozenge-shaped housing behind the nose, as well as gain access to the gearbox, also located in the nacelle.

Located just west of the University Services Building (USB), the turbine generates a small amount of power which is transmitted to the power panel in the USB Energy Control Center. In the future, additional green energy technologies on campus will include a solar E-car charging station, photovoltaic/solar panels near the new Cambus Maintenance facility, and expansion of the biomass energy program at the UI Power Plant.

Carrica notes that despite the small output of the turbine, it is an important symbol of the Iowa's commitment to sustainability as well as an innovative teaching tool that underscores the College's dedication to hands-on student learning that address real-world needs.

His students agree. As a junior, Michael Carbone completed Experimental Engineering the semester before the turbine was installed, but when Carrica invited him to work as an undergraduate assistant the following year, this young mentee jumped at the opportunity.

“Students in the course learn fundamental data collection and data reduction techniques, as well as how to transform that data into something meaningful,” says Carbone, who is earning a Master's degree in mechanical engineering at Iowa. They also better understand the importance of experimental validation as an important step in computer simulation.”

Graduate teaching assistant Yuwei Li adds that both undergraduate and graduate students who work with the turbine learn how to turn their ideas into reality.

“Because the turbine is a real machine and product, students gain a direct understanding about how a real machine works instead of just studying it on paper,” says the PhD candidate in mechanical engineering. “They also learn how to implement their ideas to solve problems. What instrument will work best and why? Should we use wireless? What factors

will affect the measurements, and how can the data best be transferred to the computer? There are no written instructions telling them how to finish their lab—they have to accomplish that effort by themselves.”

Li adds that the solid theoretical and practical knowledge that students acquire by working with the wind turbine will help them better understand the complicated—but promising—field of wind energy. And it's a subject that may encourage them to cross disciplinary boundaries, much like their professor Pablo Carrica was lured into the field of computational fluid dynamics.

Educated as a nuclear engineer, Carrica became intrigued by computational fluid dynamics, ship hydrodynamics, and aerodynamics. Like generations of budding engineers before him who built crystal radio sets, tinkered with erector sets, and constructed sturdy Lincoln Log cabins, the young Carrica channeled his childhood fascination with the workings of the world into the creation of Lego™ machines, buildings, and cities. Today, he applies those design and analytic skills to create and test computational fluid dynamics codes for experimental deep water offshore wind turbines.

“I want to develop tools that are efficient and useful and to help my students do the same,” says Carrica, who recently received a \$101,000 grant from the National Science Foundation to study simulation-based design for deep water offshore wind turbines. “I focus on parameters such as optimal pitch—the angle of the turbine blades for a given wind speed as it relates to power output. I'm also interested in answering questions about the fluid dynamics of ship design that will help companies analyze the effectiveness of the floating offshore towers that support wind turbines.”

Through both his research and teaching, the UI professor works to encourage his students to consider wind energy as an important resource to develop a sustainable world. Although wind energy currently satisfies only about two per cent of the US demand for electricity, Carrica is optimistic that research and development can meet the US Department of Energy's goal to satisfy 20 per cent of that need in the near future. And if some of his students are part of that effort, he will have met one of his own goals as a teacher and mentor.



# Pop Cans, Rice Husks

**Question:** What do aluminum cans, sand, and rice husks

**Answer:** The students are learning how solar-powered ovens—including prevent deforestation in India, improve the well-being of village women



# s, and Global Learning

husks have to do with educating University of Iowa engineering students?

ing one design that uses pop cans, sand, and rice husks—may serve to help  
and girls, and jumpstart a new “industry” to enhance the local economy.

Last January, University of Iowa students were part of a team that traveled to India during the three-week University of Iowa course, “Energy for Sustainability at the Forest’s Edge: How to Balance Rural Life with Wildlife Preservation.” Taught by Professor of Mechanical and Industrial Engineering H.S. Udaykumar, the “winterim” course provided an opportunity for students to explore how alternative, renewable energy systems can decrease the exclusive reliance on wood fuel and begin to change the longstanding pattern of severe deforestation that has profoundly damaged the economic, social, and physical wellbeing of the residents of two Indian villages.

TEXT BY JEAN FLORMAN

“Two billion people on earth cut forest wood for fuel every day,” Udaykumar says, “so providing effective, inexpensive, renewable fuel sources for cooking will address a critical human need and help slow the massive deforestation taking place around the world”

In India alone, the landscape has shifted dramatically from thirty per cent forest to less than seven per cent in just 50 years. And as the forests recede, villagers—mostly women and young girls—must venture farther and farther and spend more time gathering fuel every day. The social, economic, health, and environmental costs are enormous and growing.

Before visiting the villages, the students studied the design and impact of several different solar cooking devices and began considering the cultural and social impacts of such technologies. They worked with Climatehealers ([www.climatehealers.org](http://www.climatehealers.org)), based in Berkeley, CA, and India-based FES ([fes.org.in](http://fes.org.in)), two nonprofit organizations that focus on ways to balance the economic and environmental needs of indigenous people. The Iowa students learned about the delicate balance between the demands of daily living, the desire to improve the quality of life by accessing modern conveniences, and the essential need to preserve the environments that support us.

Based on this background knowledge, the team prepared a series of questions and strategies for an impact study which they carried out in two villages in western India near the Kumbalgarh Wildlife Sanctuary. Once on site, the Iowa team met with the entire village first to explain the project and secure support. The students then spent two days interviewing members of 30 households—slightly more than 10 percent of the total population—focusing on food preparation needs and patterns of behavior and examining the effectiveness of several simple cooking devices. Because women are responsible for collecting the fuel and cooking—an effort that requires as

*An Indian villager cooks rotis on a skillet in the mid-day sun. This is a previously deployed but failed design called a Namaste cooker that does not have thermal storage.*





Top: A site in the Kumbalgarh, India, area. The effect of deforestation from wood harvesting and grazing is evident. The stone barrier erected by FES to cordon off a conservation area is in the foreground.

Middle: Students collect data on a second version of a solar cooker. The thermal storage unit is the large black box with the Hawkeye logo. Photo courtesy of the Daily Iowan.

Bottom: The same site in Kumbalgarh, India four years after the top photo was taken.





much as five hours a day in dangerous terrain at considerable distance from the village—the students made certain each UI team included at least one woman interviewer.

In addition to better understanding the daily vicissitudes of securing fuel and cooking in smoke-filled rooms, students also learned why two solar cooker models had previously failed in the villages.

“The designs were large, bulky, and had to be adjusted every fifteen minutes,” says Jaclyn Richards (BSE 2011). “In addition, the cookers were made of glass tubes, which were heavy, fragile, and couldn’t be provided locally.”

Students also learned that technological design and availability are not the only critical constraints to adopting new, seemingly more effective technologies. Engineers and nonprofit organizations that hope to make an effective impact must also listen and observe to learn more about how people interact with technology, the environment, and each other.

“For obvious reasons, solar ovens must be used outdoors,” say Matthew Toth (BSE 2011). “But people in the villages didn’t like the idea that their neighbors could see how little they had to eat, so they didn’t want to move their cooking operations outside.”

One possible solution to that, of course, might be for everyone in the village to have access to solar cookers. The villagers may then come to value the new technology if it helps improve the safety of women and young girls, frees up time for other important pursuits, protects the rapidly dwindling forests, and potentially enhances the local economy through the production and sale of similar solar ovens.

With input from the villagers, Professor Udaykumar, and

the staff of the two nonprofits, the students formulated the requirements—technical and otherwise—of a solar cooker that would more successfully meet the needs of the villagers. The design constraints include mobility, protection from weather, storage capacity, use of easily renewable fuel, and a per-unit cost of less than \$200, which will be covered by the two nonprofits.

Other UI engineering students are now building on the findings of their 2011 winterim colleagues to develop and test a solar cooker that meets the parameters established during the India trip. The new design—appropriately named the “Hawkeye Cooker”—collects the sun’s energy with a lightweight aluminum parabolic trough reflector. The heat is transferred into a box filled with sand and aluminum pop cans, which are surrounded by another box filled with insulation provided by rice husks, available by the gigaton in India. The cans enhance heat transfer to the cooking surface, and the device can produce consistent heat up to 200°C, hot enough to cook the villagers’ traditional meal of rotis (traditional bread) and vegetables.

“The whole trip was a game-changer for me,” says Ethan Guio (BSE 2011). “I’ve always been interested in the environmental side of engineering, and now I better appreciate the impact of people’s day-to-day constraints and choices. Plus, having seen the global impact of food production, I’m attempting to become a vegetarian.”

“I realized I can make a difference—that I can help empower others through my engineering knowledge and skills,” Brianne O’Loughlin (BSE 2011) says.

“And we all learned that there’s more out there waiting to be done,” Eric Osgood (BSE 2011) adds. “Achieving real-world impact is something worth working for.”

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# AS AN UNDERGRADUATE AT ADMIRED HANCHER. SHE N SOMEDAY HELP REBUILD TH

Patricia Coleman has left her mark on Texas. A principal at the Dallas engineering design firm Thornton Tomasetti, Coleman has managed the design and construction of dozens of structures, from a high school auditorium to a 600,000 square-foot luxury hotel. Her favorite projects include healthcare facilities because although the buildings are designed to be practical, they provide a space designed for people in need. And although she is particularly proud of the construction of the complex, LEED-certified, 32-story luxury residential Azure Tower whose three swimming pools, gardens, and gazebo reside above a five-level, below-ground parking garage, Coleman is even more excited about leaving her mark on a future University of Iowa project: the construction of a new Hancher Auditorium.

For the Hancher project Thornton Tomasetti will be part of an architectural team led by the Cedar Rapids, IA firm OPN and the world-renowned architectural firm Pelli-Clarke-Pelli. Coleman, who earned a bachelor's degree in civil engineering from Iowa in 1978, was excited by the news that her firm was going to help create an iconic performing arts venue at her alma mater.

"Our part of the project will be designed by our Chicago

office," she says, "but I browbeat everyone into letting me conduct the quality control and quality assurance review. I'm just thrilled to be working on it."

As undergraduates at Iowa, Coleman and her boyfriend—now husband, Gary—often admired Hancher as they walked back and forth between her Stanley Hall dorm and his Psi Omega fraternity. They never dreamed that 30 years later a devastating flood would destroy the building or that as a structural engineer, she would someday help rebuild the renowned performing arts center.

Coleman started her UI academic career as an art major, but decided she wanted to work with materials that had more heft and structures that were more permanent. One of her husband's dentistry professors encouraged her to go with her strengths and pursue an engineering degree. Growing up on a farm near Homestead, Iowa also taught her to value hard work, creative problem solving and practical results.

"There's a real strength in the Midwest," Coleman says. "We understand the importance of education and take pride in our work."

She adds that sometimes it takes young people a while to understand that, however.





# AT IOWA, PATRICIA COLEMAN OFTEN NEVER DREAMED THAT SHE WOULD THE RENOWNED PERFORMING ARTS CENTER.

“Although my father worked full-time on the farm, he also took another job as a clockmaker in the Amana Colonies,” she says. “I didn’t realize until later that he did that so I could go to college.”

Coleman, who says her mother also was instrumental in helping her get a college degree, contributed to her own college expenses by working for Iowa City traffic engineer Jim Brahtell. Brahtell supported Coleman’s dreams of being an engineer, as did her Iowa professors, “who were excited when the students were excited.” One of her favorite memories was of a senior civil engineering course taught by Professor Howard McCauley. When he suddenly realized none of the students knew how to survey, McCauley tasked them with the job of surveying the Pentecrest, which they did for the entire semester.

Coleman adds that while the UI provided her a strong technology and math background, she also learned the “immeasurable value” of becoming well-rounded in the liberal arts and sciences. For at least two generations of engineering students, this emphasis on “engineering and something more” has set Iowa apart from its peer institutions.

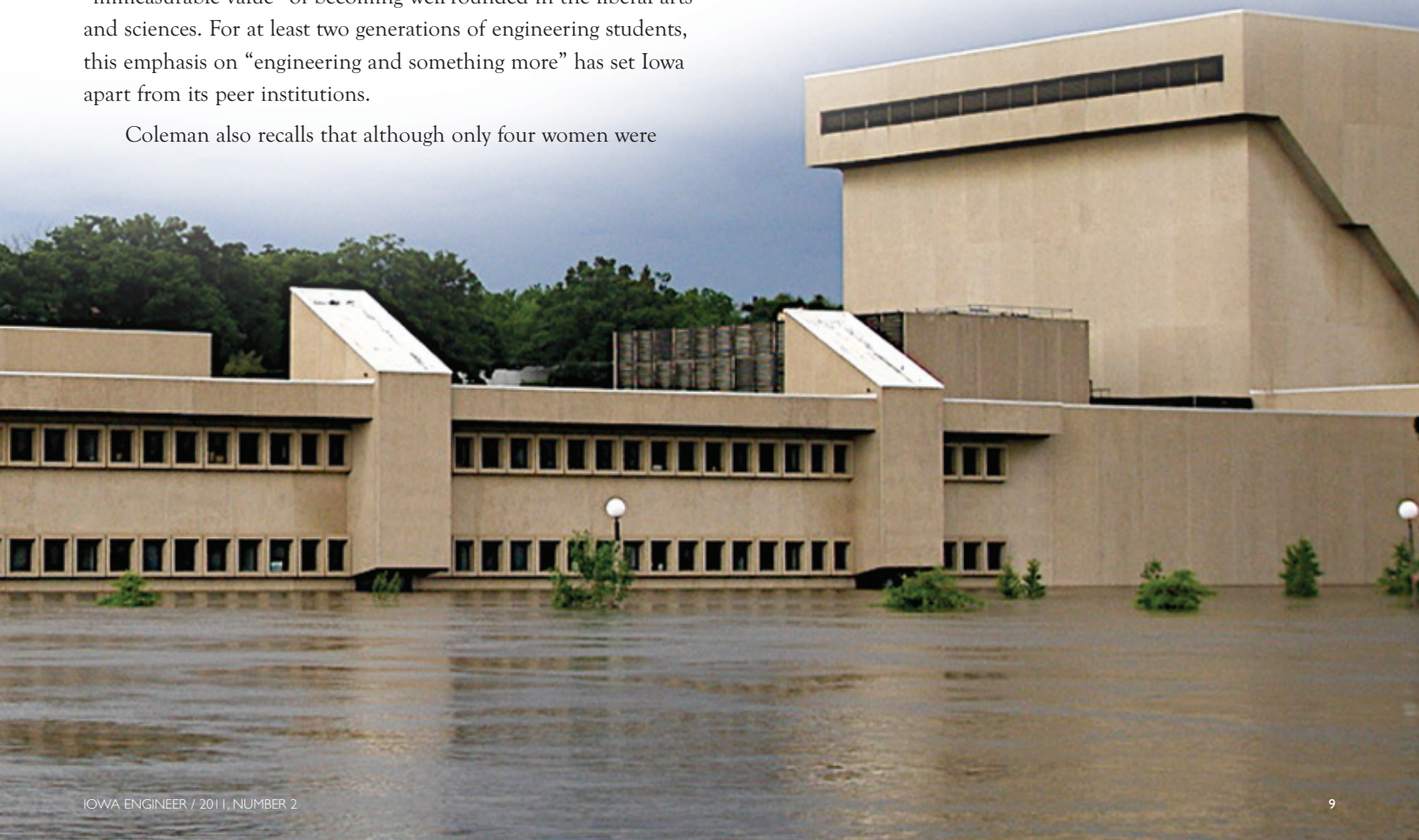
Coleman also recalls that although only four women were

in the College of Engineering Class of ’78, faculty members and students were very open-minded. The knowledge and skills she learned at Iowa prepared her to enter the work world well prepared as an engineer and manager. Nevertheless, the professional world of the 1980s sometimes presented obstacles.

“During the early years, one of my supervisors made clear he didn’t want a woman working for him,” she says. “When I eventually rose to a management position, I knew this was the kind of person I didn’t want working for me.”

On the other hand, Coleman says contractors who might at first have been wary of working for a woman engineer came to work well as a team once they saw what she could do.

“And the best mentor I ever had was a Class of ’55 graduate of West Point.”



## It's all in the family

Patricia Coleman's family members by name, degree date and program

**Gary Coleman** (spouse)  
D.D.S. 1977/M.S. in Oral Pathology 1983

**Scott Hagen** (brother)  
Bachelor of Science in Engineering (with Honors in Civil Engineering) May 1993 (Ph.D. Notre Dame/currently Assistant Professor University of Central Florida)

**Collin Coleman** (daughter)  
Bachelor of Arts in Cinema with minors in American Studies and English, 2005

**Mitchell Coleman** (son)  
BA/BSE Religion and Biomedical Engineering May '04, MA Religion May '07; PhD December '12

**Jessica Goetz** (daughter-in-law) May 2003 - BSE in Biomedical Engineering, May 2008 - PhD in Biomedical Engineering

**Hanna Hagen** (niece)  
sophomore in the College of Liberal Arts and Sciences



*Patricia Coleman was the commencement speaker at this year's College of Engineering commencement.*

Besides changing the face of Dallas and other cities, Coleman also is changing the face of the profession by encouraging underrepresented high school students to pursue careers in architecture, construction, or engineering. She established the Dallas/Fort Worth chapter of the ACE Mentor Program and has served on its board of directors. With chapters in 180 cities, including chapters in Des Moines and Mason City, Iowa, ACE has given almost \$10 million in scholarships; ACE students are 82 per cent minority and 40 per cent young women.

"It's a fantastic program," Coleman says, "and it exposes high school students to the challenges and rewards of engineering and construction. We want to hook them so they'll be committed and know they can succeed in these fields."

With the help of professional mentors like Coleman, students design structures, participate in simple construction projects, gain public speaking skills, and network with professionals and their peers who will be future architects, construction contractors, and engineers. The Dallas chapter mentors 50-90 students per year, and during a recent scholarship awards ceremony the adult brother of a young scholarship winner wept as he said that had he been mentored by ACE, his own life would have taken a different path.

Coleman's skills as a mentor and manager also have served her well in her professional life. As a principal of a venerable engineering firm with offices in 50 countries and 550 employees, Coleman supervises 25 employees, manages the budgets and schedules of complex construction projects, and has earned a reputation among her peers as one of the best in the business. The firm's founding principal and former chairman Charles Thornton recently noted that Coleman was key to his firm's successful 1993 acquisition of the Dallas structural engineering firm where Coleman then worked.

"As the business discussions proceeded," Thornton wrote in an award nomination letter, "it became very apparent to me that Pat was a key person who would help make the integration of Ellisor and Tanner into Thornton Tomasetti very simple and smooth...she is an exceptional person, a great structural engineer, a true team player."

Thornton's letter was in support of her nomination for induction into the University of Iowa College of Engineering Distinguished Alumni Academy. The nomination was launched by her College of Engineering alumnus brother, Scott Hagen, and Coleman not only was inducted into this prestigious cohort last spring but also invited by the college to deliver the charge to the 2011 graduating class.

Coleman and her husband return to Iowa City three or four times a year and keep in touch with the college. And when they retire to Iowa City in a few years, they intend to spend plenty of time enjoying performances at the new Hancher that she helped build.



# College of Engineering Establishes Grand Challenges Program, Names Scholars

A new College of Engineering scholarship program that allows recipients to choose their own academic focus from among a list of world-class challenges and study under the direction of a faculty mentor has named its initial four scholars.

The Grand Challenges Scholars program draws its name from the 14 “Grand Challenges for Engineering” in the 21st century—including such goals as “provide access to clean water”—laid out last year by the U.S. National Academy of Engineering. The College of Engineering was the 7th college nationwide to sign up as an academy-approved grand challenges program.

The scholarship winners, topics, and faculty mentors are Jacob Kirpes, sophomore majoring in industrial engineering, “make solar energy economical,” advised by Pavlo Krohkmal, associate professor of mechanical and industrial engineering; Andrew Maurer, sophomore majoring in civil engineering, “manage the nitrogen cycle,” advised by Gene Parkin, professor of civil and environmental engineering; Shayma Elsheikh, first-year biomedical engineering major, “provide access to clean water,” advised by Craig Just, adjunct assistant professor of civil and



Grand Challenges scholars are Jacob Kirpes, Shayma Elsheikh, Andrew Maurer, and Nicholas Glynn.

environmental engineering; and Nicholas Glynn, first-year chemical engineering major, “provide access to clean water,” advised by Michelle Scherer, professor of civil and environmental engineering.

The program scholarships, valued at about \$3,000 each and renewable annually for three years, will be endowed

through donations received under the umbrella of the University of Iowa Foundation. First donor to the scholarship program is Engineering alumnus **James R. Whiteley** (BSME 1962 MS 1964), chief executive officer of Vail Systems, Deerfield, IL.

In addition to choosing a research focus area related to

one of the 14 challenges, scholars will engage in five required activities: research experience, interdisciplinary curriculum, entrepreneurship and innovation, global dimension, and service learning.

“The students funded in the first year of our Grand Challenges Program represent what engineers and engineering are all about. They are ambitious, smart and ready to make a difference. In addition, their projects are representative of the National Academy of Engineering’s vision of the major problems facing our world,” Keri Hornbuckle, professor and associate dean for academic programs, said.

Engineering interim dean Alec Scranton said the program is one more way in which the college distinguishes itself from engineering programs at other universities.

“We have a history of successful and innovative programs in undergraduate research, entrepreneurship, service learning, multidisciplinary opportunities, and global awareness. Therefore it was natural for us to create a new opportunity for our students to be recognized for completing a program that includes all five of these elements,” Scranton said.

“The students funded in the first year of our Grand Challenges Program represent what engineers and engineering are all about. They are ambitious, smart and ready to make a difference.”

Keri Hornbuckle, professor and associate dean for academic programs

## VSR Signs \$8.6 Million U.S. Navy Contract

A team of College of Engineering researchers received a five-year contract worth up to \$8.6 million from the U.S. Navy for a project that could ultimately save lives and increase combat effectiveness by having military personnel carry lighter loads into combat. The renowned Virtual Soldier Research program at the Center for Computer-Aided Design won the contract for the project formally known as "Enhanced Technologies for Optimization of Warfighter Load."

## College Increases Presence on Social Media

Icons and links for College of Engineering social media sites are now available on the College web site—[www.engineering.uiowa.edu](http://www.engineering.uiowa.edu). Conveniently located in the upper right corner of the home page and major topic pages are links to Facebook, Twitter, LinkedIn, Flickr, and YouTube. See photos from Homecoming and Family Weekend; the Iowa majors rap video performed by industrial engineering student Paul Beckman on YouTube, or join the almost 600 members of The College of Engineering group on LinkedIn.

## Transitions

Four new faculty members have been appointed in the College

**Guadalupe M. Canahuat**, assistant professor of electrical and computer engineering, earned a B.S.E. in computer science from the Pontificia Universidad Católica Madre y Maestra, Dominican Republic (2000); and M.S. (2003) and Ph.D. (2009) degrees in computer science from Ohio State University. Her special fields of knowledge include database management systems; indexing; data mining; scientific databases; and software engineering.

**Mathews Jacob**, assistant professor of electrical and computer engineering, earned his B.S.E. in electrical and communication engineering from the National Institute of Technology (1996); M.S. (1999) in signal processing from the Indian Institute of Science and a Ph.D. (2003) in biomedical engineering from the Swiss Federal Institute of Technology. His special fields of knowledge are imaging processing and inverse problems. Prior to joining the College, he was a Beckman post-doctoral fellow at the University of Illinois, Urbana-Champaign, and assistant professor in the Departments of Biomedical Engineering, Electrical and Computer Engineering and Radiology at the University of Rochester.

**Ibrahim Ozbolat** joined the Department of Mechanical and Industrial Engineering as associate professor and faculty researcher in the Center for Computer-Aided Design. Ozbolat received his B.S. (2006) in industrial engineering and a B.S. (2007) in mechanical engineering from the Middle East Technical University in Ankara, Turkey. He earned his Ph.D. (2011) in industrial and systems engineering from the University at Buffalo. His special fields of knowledge include manufacturing; design; modeling and simulation; and tissue engineering.

**Edward Sander** joined the Department of Biomedical Engineering as assistant professor. Sander received his B.S.E. in chemical engineering from The University of Texas at Austin (2000), and M.S. (2004) and Ph.D. (2006) degrees from Tulane University. His special fields of knowledge are multiscale mechanics and modeling, biomaterials, tissue engineering and microscopy. Prior to joining the college, he was a postdoctoral fellow at the University of Minnesota and a research associate at the Cincinnati Shriners Hospital for Children and the Department of Surgery at the University of Cincinnati.

A retirement reception for **Joon Park**, professor of biomedical engineering, was held April 14. Park joined the College of Engineering in 1983 as a professor with tenure in materials engineering. The appointment included membership on the faculty of the biomedical engineering program and the Center for Materials Research. During his first year he was given the responsibility of establishing an undergraduate instructional laboratory in biomaterials that would meet the criteria needed for ABET accreditation of the biomedical engineering program which was granted in 1986. Park is a founding member of the Society of Biomaterials (1976) and the Korean Society for Biomaterials (1996). He is a Fellow of the International Biographical Association and the American Institute for Medical and Biological Engineering. He holds eight patents and is the author of *Biomaterials Science and Engineering*.

## Grants and Contracts

**Christoph Beckermann**, University of Iowa Foundation Distinguished Professor of Mechanical Engineering and director of the Solidification Laboratory in the College of Engineering, recently received a three-year, \$450,000 NASA grant to study the effects of convection on the solidification of metal alloys. Technically described as a study of "the effect of convection on columnar-to-equiaxed transition in alloy solidification," the project is a study of how heat transfer affects the solidification of metal alloys and their respective strengths and other properties. The results could affect the way in which metals are prepared for use in a wide range of devices ranging from cars and aircraft to computers.

A UI faculty member since 1987, Beckermann is internationally recognized for his research in solidification phenomena and materials processing. He also received a \$72,000 grant from the Steel Founders' Society of America for "Enabling technology for cost effective production of steel encapsulated ceramic tile armor."

**James Buchholz**, assistant professor in the department of mechanical and industrial engineering and assistant faculty research engineer at IIHR-Hydroscience & Engineering, received a \$104,310 grant from the US Department of Defense, Air Force for "Fundamental bounds on vortex shedding in forward flapping flight."

**Gregory Carmichael**, Karl Kammermeyer Professor of Chemical and Biochemical Engineering, associate dean for graduate programs and research, and co-director of the Center for Global and Regional Environmental Research, received a \$108,423 grant from the US National Aeronautics & Space Administration for "Improving air quality analysis through a closer integration of observations and models." He also received a \$166,967 National Science Foundation grant for "Collaborative research: type 1: chemistry and climate over Asia: understanding the impacts of changing climate and emissions on atmospheric composition."

**Pablo Carrica**, associate professor in the department of mechanical and industrial engineering and associate faculty research engineer at IIHR-Hydroscience & Engineering, received a \$101,299 research grant from the National Science Foundation. The research, to be conducted in collaboration with Tao Xing, assistant professor of mechanical engineering at Tuskegee University, involves studying simulation based



design for deep water offshore wind turbines, including wave loads and motions.

**Troy Lyons**, director of engineering services at IIHR—Hydrosience & Engineering, received a \$197,190 contract from Ch2M Hill for physical modeling of Abbey Mills Shaft F in London, England. He also received \$200,000 in funding for a project to test a low-cost integrated hydroelectric turbine/generator.

**Marian Muste**, adjunct professor of civil and environmental engineering and research engineer at IIHR—Hydrosience & Engineering was awarded a \$220,439 contract with The Iowa Department of Transportation for “Determination of entrance loss coefficients for twin pre-cast and triple RCB culvert designs.”

Two University of Iowa College of Engineering researchers have received a \$280,000 grant from the National Science Foundation for a study of fluid dynamics and, in particular, how fluids move around riverine structures. Over the next two years, **James Buchholz**, assistant professor in the department of mechanical and industrial engineering, and **Thanos Papanicolaou**, Donald E. Bently Faculty Fellow of Engineering, professor in the department of civil and environmental engineering, and faculty research engineer at IIHR-Hydrosience & Engineering, will study the interaction between water flow and sediment.

## Lectures and Presentation

A research presentation given by **Andrew Kern**, graduate research assistant in the Department of Orthopaedics and Rehabilitation and a master’s candidate in biomedical engineering was judged best presentation recently at the 19th Annual Symposium on Computational Methods in Orthopaedic Biomechanics in Long Beach, CA. The presentation was entitled “An expedited approach for patient-specific articular joint contact stress evaluation,” and co-authored by Donald D. Anderson and Thomas D. Brown.

**Wilfrid Nixon**, professor of civil and environmental engineering, faculty research engineer at IIHR-Hydrosience & Engineering, and an internationally known authority on winter highway maintenance, will speak Feb. 1–3 at the inaugural session of the conference Winter Exhibition Nordicway in Ostersund, Sweden.

**Joseph M. Reinhardt**, professor and departmental executive officer of biomedical engineering, served as co-chair of the International Society for Optics and Photonics (SPIE) Medical Imaging Conference held February 12–17 in Lake Buena Vista, FL. **Milan Sonka**, professor and departmental executive officer of electrical and computer engineering, and director of the Iowa Institute of Biomedical Imaging, gave a keynote presentation at the conference.

**Hosin “David” Lee**, professor of civil and environmental engineering and transportation researcher in the UI Public Policy Center, served as chair of the 40th anniversary meeting of the Korean-American Scientists and Engineers Association, Aug. 10–14 in Park City, UT.

The Virtual Soldier Research (VSR) program launched the International Society for Human Simulation (ISHS). The first conference, International Summit on Human Simulation, was held May 26–27 in St. Pete Beach, FL. Founded in 2010, ISHS has attracted members from many industry, academia and government organizations including Ford, General Motors, Chrysler, Hyundai, Honda, Caterpillar, Deere, Disney, NASA, Boeing, Raytheon, the U.S. Navy and U.S. Army. **Karim Abdel-Malek**, professor of biomedical engineering and director of VSR and the UI’s Center for Computer Aided Design, and ISHS founding member was the conference organizer. As the principal technical society devoted to the advancement of human simulation, ISHS is a nonprofit corporation fostering communication among human simulation professionals.

## Recognitions

**Megan Allen**, director of tutoring and retention, was awarded a 2011 Lola Lopes Award for Undergraduate Student Advocacy in recognition of her support of undergraduate students. Allen oversees the engineering tutoring program available to all engineering students, covering all engineering curriculum, five nights a week.

**Dan Branson**, professor emeritus of civil and environmental engineering, was inducted into the College of Engineering’s Legacy of Iowa Engineering on May 12. Branson served as professor of civil and environmental engineering from 1963 until his retirement in 1993. He is the structural designer of “Ribbon through Space,” the pedestrian overpass at Burlington Street and Riverside Drive in Iowa City.

Co-authors, **George Constantinescu**, University of Iowa, Gokhan Kirki, Lawrence Livermore National Laboratory, Livermore, CA, and Robert Ettema, University of Wyoming, received the Karl Emil Hilgard Hydraulic Prize at the American Society of Civil Engineers/Environmental and Water Resources Institute National Conference. The prize, awarded for best technical paper in the *Journal of Hydraulic Engineering*. Their article, “Detached eddy simulation investigation of turbulence at a circular pier with scour hole,” appeared in the November 2009 issue of the journal.

**Curtis Goreham-Voss**, biomedical engineering doctoral student, received the prestigious Young Scientist Pre-Doctoral Award from the American Society of Biomechanics (ASB)

The winner of the 2011 International Studies Outstanding Faculty Mentor Award was **Craig Just**, adjunct assistant professor of civil and environmental engineering. This award recognizes outstanding contributions in international education and exceptional mentoring and support of UI students who are pursuing a Bachelor of Arts degree in international studies through the UI College of Liberal Arts and Sciences.

The University of Iowa (Omicron) Chapter of **Theta Tau** was recognized at the 2010 National Convention held August 5–8 in Denver, CO. The chapter received a certificate for scoring 700 or more points in the Chapter Performance competition, and for demonstrating at least 20% growth over the previous year. Regent **Alyssa Neiers** (BSE 2010 biomedical engineering), was awarded the Robert L. Miller (BSChE 1941) Scholarship.

## Send us your personal and professional news.

### E-mail:

iowa-engineer@uiowa.edu

### Mail:

The University of Iowa  
College of Engineering  
3100 Seamans Center for the  
Engineering Arts and Sciences  
Iowa City, Iowa  
52242-1527

### Phone:

319-335-5764

### Fax:

319-335-6086

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**Have you completed the 2011 College of Engineering Alumni Survey?**

**Josiah McClurg, Patrice Metcalf-Putnam, and Samantha Rossman** were named recipients of the E.B. Kurtz Senior Merit Award. The award is given to one or more seniors majoring in electrical engineering in recognition of their high scholarship, character, professional promise and service to the department.

University of Iowa President Sally Mason appointed **Gene Parkin**, Donald E. Bently Professor of Engineering, professor of civil and environmental engineering, faculty athletics representative for the University. His role is to advise the president, monitor compliance with student athlete eligibility and other National Collegiate Athletic Association (NCAA) rules, and serve as the UI's institutional voice at national meetings and conferences.

**Tonya Peeples**, professor of chemical and biochemical engineering and director of the Ethnic Inclusion Effort for Iowa Engineering, was the recipient of the 2011 Michael J. Brody Award for Faculty Excellence in Service.

**Milan Sonka**, professor and departmental executive officer of electrical and computer engineering, was named a recipient of the 2011 Iowa Board of Regents Award for Faculty Excellence.

**David Wilder**, associate professor of biomedical engineering and senior research scientist at the UI Jolt/Vibration/Seating Laboratory, was appointed to the Whole-Body Vibrations Injuries Conference International Scientific Committee. He is the first person from the U.S. to be invited to be a member of the committee.

The **Engineers for a Sustainable World** website ([www.uesw.org](http://www.uesw.org)) earned a Gold ADDY Award.

The annual faculty/staff recognition award ceremony recognized the following:

**Faculty Excellence Award for Teaching:** A. Allen Bradley

**Faculty Excellence Award for Service:** Julie Jessop

**Faculty Excellence Award for Research:** Christoph Beckermann and Timothy Marler

**Collegiate Staff Award for Community Engagement:** Deborah Hampton

**Mary Sheedy Staff Excellence Award:** Natalie Potter

### Service to the College recognition:

#### 25 Years:

**Chris Fomon**, senior systems administrator, engineering computer and systems support

**David Funk**, computer systems administrator, engineering computer and systems support

**Susan Beckett**, director, desktop services, engineering computer and systems support

#### 20 years:

**Sheila Britton**, department administrator, engineering computer and systems support

#### 15 Years:

**Marian V. Muste**, research scientist, IIHR—Hydroscience & Engineering

**Thomas Barnhart**, parts manager, Engineering Electronics Shop

#### 10 Years:

**Lorena Lovetinsky**, secretary, biomedical engineering

**Philip E. Jordan**, director, Engineering Professional Development

**Bart Brown**, senior application developer, Center for Bioinformatics and Computational Biology

**Collin Just**, research associate, civil and environmental engineering

**Scott Coffel**, director, Hanson Center for Technical Communication

The business plan for **Iowa Medical Innovations Group** received the 2011 Hubert E. Storer Engineering Student Entrepreneurial Start-up Award. The interdisciplinary group's Tri-Care Tube is a novel multi-therapeutic nasogastric feeding tube that improves patient comfort and allows for safe and effective placement without the use of x-rays. An initial prototype utilizes innovative technology to create a method for delivering nutritional supplements and medications to the relevant tissues. The tube provides a protective sheath to prevent further abrasive irritation to the patient during nasojejunal feeding tube placement. The engineering students of Iowa Medical Innovations Group include: Lindsey Knake, Tim Lane, Alayna Butcher and Elizabeth Breitbach, all seniors majoring in biomedical engineering; Tim Fredericks, a junior in mechanical engineering; and James Arter, a graduate student in biomedical engineering. The firm's founders are Tyler Rasmussen, M.D./Ph.D. student, and Thomas Waterbury, medical student, both in the Roy J. and Lucille A. Carver College of Medicine.



## 1960's

*Opening Space Research—Dreams, Technology, and Scientific Discovery*, by **George H. Ludwig** (PhD 1960) was released by the American Geophysical Union in June.

## 1970's

**Lilia Abron** (PhD 1972) and **Lou Licht** (PhD 1990) were the keynote speakers at the 2011 Iowa Renewable Energy Association Symposium held April 28 on the UI campus. Abron is founder and CEO of PEER Consultants, P.C., an environmental consulting firm headquartered in Washington, D.C. Licht is founder and president of Ecolotree®, Inc., in North Liberty, IA.

**Bennett Reischauer** (MS 1978), senior vice president at Stanley Consultants, received the Iowa Engineering Society's Distinguished Service Award in recognition of his service to the engineering profession in Iowa. Reischauer has served as a mentor to numerous young engineers just starting their careers.

## 1980's

**Andy Haun** (BS 1984) is director, 3-phase power program management for Schneider Electric, Montbonnot, France.

**Joseph Hughes** (MS 1987, PhD 1992), school chair and professor of civil and environmental engineering, Georgia Institute of Technology was selected as the 2011 Georgia Engineer of the Year in Education. Hughes has been recognized for his passion and devotion to his students, as well as his research in the field of environmental biotechnology.

**Hasan Johanes** (BSE 1989) is a sales manager in the financial and telecommunication sector at Quadra Solution.

**Pat Jonas** (BSCE 1982) is a mechanical engineer at Harris Corporation, Melbourne, FL.

**Greg Kirsch** (BSE 1987) patent attorney and partner at Ballard Spahr, Atlanta, GA, was invited to serve as an adjunct professor at Washington University School of Law in St. Louis for the fall 2011 semester. Kirsch taught a class titled "Intellectual Property Protection for Software," which was offered to students as an intensive, one-credit course on November 4–6, 2011. Kirsch is also an adjunct professor of patent law at Emory University School of Law.

**Joel Koenig** (BSE 1984) is a senior project manager at Crawford, Murphy & Tilly, Inc.

**Michael P. Maley** (BSME 1981) was appointed president and chief executive officer of hydro Green Energy, LLC. Prior to joining Hydro Green, Maley was president and chief executive officer of Perpetual Energy Systems, a solar energy company. He also served as president and chief executive officer of Alliant Energy Generation, a subsidiary of Alliant Energy.

**Gregory L. Meyers** (BSE 1981) of Hartland, WI, is vice president of product development and implementation services for the Expressume talent acquisition solutions company in Delafield, WI.

**Neil D. Mooers** (BSE 1982) is strategic business manager, global sales and service, North American, at Philips Healthcare, Andover, MA.

**Greg Paul** (BSME 1983, MS 1984) is senior manager, design process & tool control for Lockheed Martin Aeronautics in Texas.

**Daryl Soderman** (BSE 1989) is president of D.K. International Associates, Inc., Ft. Lauderdale, FL.

**Scott Wallace** (MS 1988) is with North American Wetland Engineering, Minneapolis, MN, specializing in natural treatment systems.

**Mark Wiesner** (MS 1980), professor of civil and environmental engineering at Duke University, received the 2011 National Water Research Institute Athalie Richardson Irvine Clarke Prize for excellence in water research. Wiesner's award comes just a year after his thesis advisor, Jerry Schnoor, Allen S. Henry Chair in Engineering and UI professor of civil and environmental engineering, received the same award.

## 1990's

**Darin Andresen** (BSE 1999), project manager with the city of Marion, IA, competed in the inaugural "Mayoral Putting Contest" at the Greater Cedar Rapids Open Pro/Am on Thursday, July 21, at Hunters Ridge Golf Course

**Amy Boelk** (BSE 1998), LEED AP, has joined Shive-Hattery as a project manager. She is located in the Iowa City design office and is part of the institutional team.

**Joel Burken** (MS 1993, PhD 1996) is professor at the Missouri Institute of Science and Technology, Rolla, MO.

**Steven Dow** (BSE 1999) completed a postdoctoral appointment at Stanford University and has been appointed to the faculty at Carnegie Mellon University's Human-Computer Interaction Institute beginning fall 2011.

**Jeremy Fortier** (BSE 1997), PMP, LEED AP, senior healthcare manager, Duke Realty, was awarded the Certified Healthcare Constructor certification by the American Hospital Association. Achieving AHA certification verifies the recipient has met educational and professional experience requirements and, through a rigorous examination process, has mastered a well-defined body of knowledge considered important to competent practice in today's healthcare field.

As on February 2011, there were only three CHC's in the state of Indiana.

**Jia J. Guo** (MS 1997) is senior environmental scientist at URS Corporation, Chicago, IL.

**Lyle Hammes** (BSE 1996) of Ames, an environmental engineer for Ames Water and Pollution Control, is co-author of *Hawkeye Greats, By the Numbers – Volume I*.

**Jim Jordahl** (PhD 1997) is global technology leader, Natural Treatment Systems, at CH2M HILL, Des Moines, IA. The American Academy of Environmental Engineers (AAEE) recently named two innovative wetlands projects handled by Jordahl's team with "Excellence in Environmental Engineering" awards.

**Andrew March** (BSE 1993) has been named a principal with HR Green, Inc Cedar Rapids, IA. He is a practice leader for private sector wastewater clients in the water business line.

**Ramu Reddy** (BSE 1993) is a cardiac electrophysiologist in Eugene, OR.

**Kendra Schlebusch** (BS 1999) is a partner in a new enterprise, The New Birth Company, Kansas City, MO.

**Ken Sigman** (BSE 1997) has been appointed director of sales & marketing, North America, at Novellis, Inc., Atlanta, GA.

**Phillip Thompson** (MS 1992, PhD 1997), associate professor and chair of civil and environmental engineering at Seattle University, was awarded the James B. McGoldrick Fellowship.

## 2000's

**Nikhil Anand** (BSE 2009) is a systems administrator at The University of Iowa Hospitals and Clinics.

**James Ankrum** (BSE 2007) and **William B. Liechty** (BSE 2007) attended the 61st meeting of Nobel Laureates in Lindau, Germany.

**Avery Louise Bang** (BSE 2007 and BA 2007) of Broomfield, Colo. was named a 2011 New Face of Civil Engineering. Bang is the executive director of Bridges to Prosperity, a non-profit organization that builds cable-stayed pedestrian bridges throughout the developing world. With design, program development and construction experience in nearly a dozen countries she has more than doubled the size of the operation.

**Allie Bartak** (BSE 2009) is a packaging systems engineer with General Mills – Yopla, in Methuen, MA.

**Adam Benwitz** (BS 2004) and **Scott Mendralla** (BS 2005) are employed with AtCor Medical, Itasca, IL.

**James D. Borchardt** (BSE 2004, JD 2007), a registered patent attorney, has joined the law firm of Reinhart, Boerner, Van Deuren, SC., Milwaukee, WI. Borchardt specializes in the technology and medical device industries.

**Katie Coates** (BSE 2003) received the Cedar Rapids, IA, Chamber of Commerce Volunteer of the Year Award.

**Jonathan Curran** (BSE 2006) is module design hardware engineer with SEAKR Engineering.

**Alexander Daboub** (BSE 2009) is a mechanical engineer at Kastalon, Inc.

**James F. Fox** (PhD 2005) is assistant professor of civil engineering at The University of Kentucky College of Engineering.

**Josh Gersten** (BSE 2005) is product configuration engineer at Integrated DNA Technologies, Coralville, IA.

**Aaron Granquist** of Iowa City was inducted into the Waldorf College Athletic Hall of Fame on Sept. 23. After graduating with Waldorf's associate degree in 1994, he earned a B.S. in mathematics (1996), B.S.E. in civil engineering (2000) and MBA (2010) from University of Iowa. He is a member of the University of Iowa Civil Engineering Department Professional Advisory Board and is a practitioner/adviser to Iowa ASCE Student Chapter. Granquist is employed with HR Green.

**Christopher Gubala** (BSE 2007) is an engineer with ComEd.

**Brent G. Hextell** (BSE 2004) is a sports biomechanist and director of Rocky Mountain Chiropractic and Sports Injury Centers in Windsor, CO. His article, "Disturbances in kinetic chain will affect one's energy transfer," appeared in the September 21, issue of the *Windsor Beacon* (<http://www.coloradoan.com/article/20110922/WINDSORBEACON01/10922032>)

**Leah Jirsa** (BSE 2002) is a senior IT project manager at Rockwell Collins.

**Will Lack**, M.D. (BSE 2002) was the keynote speaker for the Department of Biomedical Engineering Senior Design Day held April 28 at the Iowa Memorial Union.

**Nicholas D. Laird** (BSE 2009) is a product development engineer for Smith & Nephew Orthopaedics in Memphis, TN.

**Samantha Lane** (BSE 2005, MBA 2010) has been appointed to the Biomedical Engineering Advisory Board. She is also a member of the College's Young Alumni Advisory Board.

**Matthew Menietti** (BSE 2009) of St. Louis is a fellow in the Saint Louis Coro Fellows Program in Public Affairs, a graduate-level leadership training program.

**Bryan Nordstrom** (BSE 2001) is a manager at Deloitte Consulting.

**Andrew Pelzer** (BSE 2006) is a design engineer with Electrolux.

**Rathi (Ravikumar)** (BSE 2005) and **Arun Joseph** (BSE 2004) announce the birth of Anya Grace Joseph on April 20, 2011. Anya weighed in a 6 lb., 4 oz., 18" long.

**Jeff Skrentner** (BSE 2005, MS 2006) is the central regional director at Theta Tau Professional Engineering Fraternity.

**Fitzgerald Steele, Jr.** (BSE 1997, MS 2000) was recently promoted to manager; user experience at ACT, Iowa City. Steele is a member of the college's Young Alumni Advisory Board.

**Tyler VanderLinden** (BSE 2006) is a project engineer at PCL Civil Constructors, Houston, TX.

**Nathan Whitlow** (BSE 2007) is a student at the UI Carver College of Medicine.

## 2010's

**Aaron Gwinnup** (BSE 2010) is a staff engineer at HR Green, Inc., in Cedar Rapids, IA.

**John Foster** (BS 2011) is with the Kansas Department of Transportation.

## 1930's

**Vincent C. Blecker** (BSEE 1935) of Plymouth, MI, September 2, 2009.

**Paul L. Conrad** (MS 1936, PhD 1938) of Grapevine, TX, January 17, 2009.

**Fred W. Lunsman** (BSEE 1937) of Lincoln, CA, May 29, 2011.

**Richard B. Miller** (BSEE 1934, MS 1935) of Davenport, IA, October 28, 2010

## 1940's

**Don J. Arganbright** (BSME 1942) of Rochester, NY, February 10, 2011.

**George A. Austin, Jr.** (MS 1947) of Gainesville, GA, January 28, 1999.

**Ronald E. Barrett** (BSME 1949) of Fresno, CA, July 13, 2010.

**O. Richard Braun** (BSEE 1941) of Scottsdale, AZ, May 30, 2011.

**Howard R. Burman** (BSChE 1943) of Bartlesville, OK, October 28, 2008.

**William A. Chantry** (BSChE 1949, MS 1951) of Kinston, NC, July 2, 2011.

**James B. Cotter** (BSCE 1949) of Las Vegas, NV, February 4, 2008.

**Harold R. Cummings** (BSEE 1942) of Waukesha, WI, March 15, 2011.

**Logan G. Finerty** (BSME 1949) of Chesterfield, MO, June 13, 2011.

**Robert E. French** (BSME 1943) of Frankfort, IN, August 19, 2011.

**Arthur B. Grace, Jr.** (MS 1948) of San Antonio, TX, January 21, 2011.

**Raymond J. Hudachek** (BSME 1949) of Ocean Springs, MS, July 12, 2011.

**Glenn P. Ingwersen** (MS 1948) of Atlanta, GA, October 21, 2010.

**Donald E. Johnson** (BSCE 1949) of Plymouth, MN, August 24, 2011.

**Howard E. Jones** (MS 1948) of Whiting, NJ, May 28, 2011.

**Vincent E. Larson** (BSCE 1948) of Orlando, FL, April 3, 2010.

**Chester R. Lodge** (BSEE, 1943, MS 1949, PhD 1952) of Paradise Valley, AZ, May 24, 2011.



**George B. Lyon** (MS 1942) of Grosse Point, MI, December 13, 2010

**Francis C. Maternik** (BSCE 1942) of Hamilton Square, NJ, July 27, 2011.

**James A. Tainer** (BSChE 1949) of Akron, OH, July 28, 2008.

**Jesse H. Wilder** (MS 1949) of Beavercreek, OH, December 2, 2010.

**H. Roland Zeller** (BSEE 1943) of Spring Valley, CA, February 3, 2011.

## 1950's

**Anthony C. Aiello** (BSCE 1954) of Wayne, IL, March 12, 2011.

**Wallace J. Blad** (BSEE 1951) of Rome, GA, January 12, 2011.

**Don J. Canney** (BSCE 1959) of Cedar Rapids, IA, March 20, 2011.

**Kurt L. Hauer** (BSChE 1950) of La Crosse, WI, April 12, 2011.

**Richard W. Hoover** (BSCE 1955) of Bethel Park, PA, July 7, 2011.

**Leonard R. Johnson** (BSEE 1950) of Knoxville, TN, August 29, 2010.

**Warren L. Larsen** (BSChE 1950) of Waynesboro, VA, February 7, 2011.

**Ronald P. Larson** (BSEE 1950) of Davenport, IA, August 21, 2009.

**Richard J. Maine** (BSCE 1951) of Cedar Falls, IA, July 27, 2011.

**Thomas I. McLane** (BSCE 1958) of Vicksburg, MS, January 29, 2011.

**Earl Myron Myers** (BSME 1951) of St. Louis, MO, December 17, 2010

**D.E. Newell** (MS 1956, PhD 1958) of DeKalb, IL, December 25, 2010.

**Kenneth J. Rourke** (BSEE 1959) of Mesa, AZ, August 23, 2011.

**Richard J. Selfe** (BSCE 1950) of Delmar, NY, May 12, 2011.

**Seth C. Sensiba** (BSChE 1958) of Pleasanton, CA, September 17, 2011.

**William E. Thompson** (BSCE 1953) of Vancouver, WA, June 9, 2009.

**Frank S. Trocino** (BSChE 1951) of Vancouver, WA, April 8, 2011.

**John T. Walker** (BSCE 1958) of San Antonio, TX, April 9, 2011.

**Donald R. Wilson** (BSEE 1959) of Dallas, TX, January 22, 2011.

## 1960's

**John J. Duffy** (BSCE 1962) of Port Hueneme, CA, July 16, 2011.

**Philip A. Gustafson** (BSCE 1960) of Fullerton, CA, July 12, 2007.

**John F. Haman** (BSChE 1961, MS 1962, PhD 1965) of North Liberty, IA, August 31, 2011.

**Stanley H. Lee** (BSChE 1963) of Clear Lake, IA, September 28, 2010.

**Allan E. Lefkow** (BSChE 1963) of Scottsdale, AZ, April 22, 2011.

**John M. Moran** (BSME 1960) of Absecon, NJ, January 25, 2011.

**Roger F. Randall** (BSEE 1967) of Coralville, IA, March 10, 2011.

**Ronald R. Schmarje** (BSME 1966, MBA 1967) of Muscatine, IA, July 3, 2011.

**Jack W. Schmidt** (BSEE 1960) of Ellensburg, WA, July 20, 2009.

**James R. Wenthold** (BSCE 1967, MBA 1969) of Bloomington, MN, March 31, 2011.

**Richard L. VanEtten** (BSEE 1960) of Bend, OR, August 23, 2011.

## 1970's

**Thomas F. Bresaw** (BSE 1977) of Sedona, AZ, January 2007.

**Robert W. Graber** (BSME 1975) of Castaic, CA, February 28, 2009.

**Marco Falcon** (PhD 1979) of Caracas, Venezuela, March 27, 2011.

**Donald J. Knoedel** (BSCE 1974) of Minneapolis, MN, January 16, 2011.

**Glenn O. Njus** (BSE 1975, MS 1976, PhD 1985) of Akron, OH, June 29, 2009.

**Sushil Sharma** (MS 1971) of Katy, TX, September 30, 2002.

## 1980's

**Richard A. Law** (BSE 1980) of Frankfort, IL, September 3, 2011.

## 1990's

**Iku Kosaka** (MS 1993, PhD 1997) of Novi, MI, May 19, 2011.

**Blaine L. Willey** (BSE 1992) of Elmhurst, IL, April 16, 2011.

## From the Foundation

Giving back to the College of Engineering isn't something new for Mary Louise Bagnara, (BSChE 1956). "Lou" and her husband, Joe (PHD 1956), have been generous supporters of the University for 53 years. "We contribute to the Foundation because of our pride in our University and our desire to recognize the gifts it gave us during some formative years."

Joe's graduate education in Zoology set him on the road to a long, successful career in academia. Lou says her experiences in Chemical Engineering were incredibly rewarding. Many aspects of campus life provided her the opportunity to develop leadership skills and to make lifelong friends. "Iowa will always have a special place in our hearts."

Recently, the Bagnaras were made aware of the charitable IRA rollover legislation (Pension Protection Act) which allows you to transfer lifetime gifts up to \$100,000 using funds from your individual retirement account (IRA) without undesirable tax effects. This opportunity is only available through Dec. 31, 2011.

You may contribute funds this way if:

- You are age 70½ or older at the time of the gift.
- The gifts total any amount up to \$100,000 in 2011.
- You transfer funds directly from an IRA.
- You transfer the gifts outright to one or more qualified charities, but not to supporting organizations, or for gift annuities, charitable trusts, donor advised funds or any gift from which you receive a personal benefit.

The Pension Protection Act allows the Bagnaras to see their generosity at work now, enhancing the UI engineering experience for today's students.

To learn more about The University of Iowa Foundation, and how gifts from alumni and friends support students and faculty in the UI College of Engineering, please visit [www.givetoioiwa.org/engineering/](http://www.givetoioiwa.org/engineering/) or contact me at [kate-metcalf@uiowa.edu](mailto:kate-metcalf@uiowa.edu), (319) 335-3305 or toll-free 800-648-6973.



Kate Metcalf  
Director of Development  
College of Engineering  
The University of Iowa  
Foundation

# IOWA ENGINEER

The University of Iowa  
College of Engineering  
Office of the Dean  
3100 Seamans Center  
for the Engineering Arts and Sciences  
Iowa City, Iowa 52242-1527

Phone: 319-335-5764  
Fax: 319-335-6086  
E-mail: iowa-engineer@uiowa.edu

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affirms its commitment to providing equal  
opportunities and equal access to University  
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Office of Equal Opportunity and Diversity,  
319-335-0705.



The University of Iowa competed  
with The University of Nebraska  
to see which school could have the  
most fans on Facebook by the time  
the Hawkeyes and Huskers met on  
the football field November 25. The  
campaign featured Herky visiting  
many campus locations. Here,  
Herky "H. Maverick" visits the  
Operator Performance Laboratory.

## Branson inducted into Legacy of Iowa Engineering

Dan Branson, professor emeritus of civil and environmental engineering, was inducted May 12 into the College of Engineering's Legacy of Iowa Engineering.

Branson served as professor of civil and environmental engineering from 1963 until his retirement in 1993.

"Concrete is the most used construction material in the world," Alec Scranton, dean of the College of Engineering, said. "So when one contributes to the field of its design and construction like Prof. Branson has through, research, codes and standards development, and teaching, literally millions of the world's population is affected. Prof. Branson brought to the classroom a command of the subject matter, a way to practically apply it, and a genuine respect for students."

"Methods and formulas developed by Prof. Branson for predicting deflection, creep, and shrinkage in reinforced and prestressed concrete structures have long been used in major building codes and standards adopted in the U.S. and other countries, as well as in technical papers and in major text books and handbooks," he added.

Branson was the structural designer of the spiral ramp and support structure at Burlington Street and Riverside Drive, Iowa City. He served as a consultant for the part of the overpass structure to Powers Willis and Associates who were the Iowa State Highway Commission's consulting engineers for the Iowa River bridge and pedestrian overpass projects completed in 1969.

Branson also was the structural designer of the large reinforced concrete and structural steel thermal flume on the UI campus. He served as consultant to the Iowa Institute of Hydraulic Research (now IIHR-Hydrosience & Engineering). The work was published by Branson and the late Hunter Rouse, who served as dean of the college and director of IIHR.

The Legacy of Iowa Engineering was created to recognize faculty, staff, alumni, and friends of the College of Engineering who made exceptional historical contributions toward advancing the college in teaching, research, or service during their engagement with the College.

